A. PARISE.

COMBINATION LOCK.

No. 186,268. Patented Jan. 16, 1877.

Fig: 1.

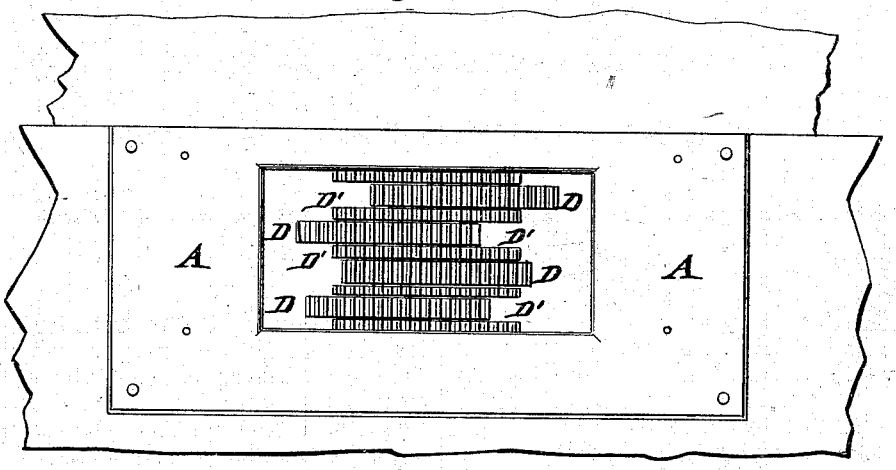


Fig: 2.

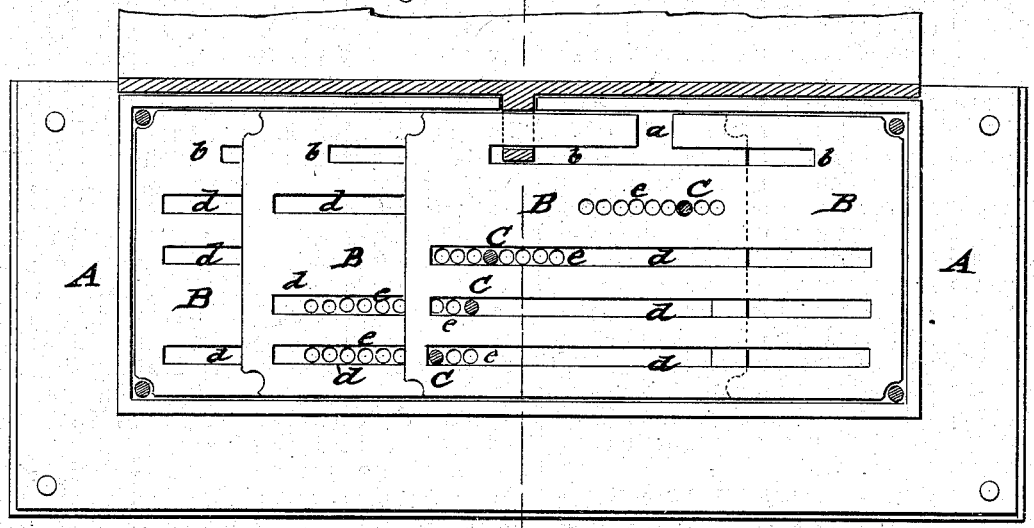


Fig: 3.

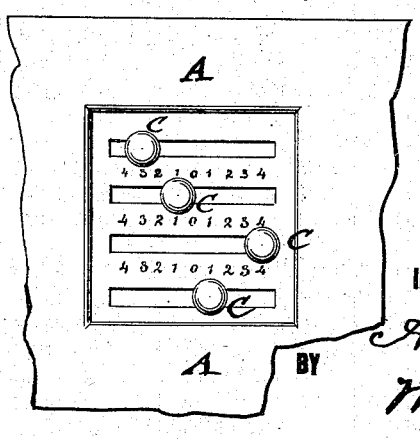
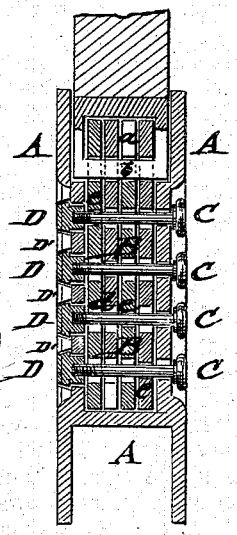


Fig: 4.



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ACHILLE PARISE, OF NAPLES, ITALY.

IMPROVEMENT IN COMBINATION-LOCKS.

Specification forming part of Letters Patent No. **186,268**, dated January 16, 1877; application filed December 23, 1876.

To all whom it may concern:

Be it known that I, ACHILLE PARISE, of the city of Naples, Italy, have invented a new and Improved Combination-Lock, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front view; Fig. 2, a vertical longitudinal section; Fig. 3, an inside view; and Fig. 4, a vertical transverse section on line *c c*, Fig. 2, of my improved combination-lock.

Similar letters of reference indicate corresponding parts.

The invention relates to an improved combination-lock for doors, trunks, safes, &c., that admits, by simple construction, a large number of combinations, and may be opened and closed in quick and convenient manner.

The invention consists of sliding tumbler-plates, having longitudinal slots and a number of perforations placed at different relative positions to the slots of each tumbler. The trunks are connected by screw set-pins attached to face-slides, and passing through any one of the perforations, admitting the setting of the tumblers and opening of the lock by outer projections or buttons of the slides to fixed exterior guides.

In the drawing, A represents the casing of my improved combination-lock, which may be made of any thickness and size, according to the purpose for which the lock is to be used. Any suitable number of sliding tumbler-plates B are arranged inside of the casing A, said tumblers having central or side recesses *a* for the entrance of the bolt, as desired. The central recesses *a* have slotted extensions *b*, which admit of the sliding in and locking of the tumblers to the bolt or catch. When the recesses are at the ends to be used in connection with a sliding bolt with extension-plates, the latter are prevented from being drawn back when the tumblers are not in the required position. Each tumbler B is provided with as many longitudinal slots *d* as there are tumblers, minus one, and also with a suitable number or series of perforations, *e*, which takes the place of a slot. The perforations and slots of all the tumblers register with each other, and are so arranged that the relative position of perforations and slots is different in each tumbler, the first tumbler having, for instance, the perforations above the slots, the second having one slot above, the other slots below the perforations, the third, two slots, and the others below, and so on, according to the number of tumblers.

The perforations *e* of the tumblers are preferably numbered symmetrically to the center holes, and the number of the combinations to which the lock may be set may be increased, according as the number of perforations is larger or smaller.

Through the slots and one of the perforations of each tumbler are passed screw set-pins C, with buttons at the interior ends, every screw-pin operating and setting one of the tumblers.

The threaded ends of the screw set-pins C are screwed into slide-pieces D, that are guided in slots of the face-plate of the casing, and between fixed projecting guide-pieces D′ of the same. The face slide-pieces D and guides D′ are either ribbed, as in the drawing, or provided with projections, lugs, or buttons, for the purpose of readily moving the slide-pieces and thereby the tumblers.

The uniform grooving of the guide-pieces and slides, as shown in Fig. 1, is mainly intended for the purpose of rendering any attempts to open the lock futile and more difficult.

The tumblers are set by means of the slides to the ends of the guide-pieces, which serve as indicator-points, as many of the divisions or graduations of the slides being moved either to the right or left of the ends of the guide-pieces, according, as the corresponding screw set-pins are inserted into perforations at one side or the other of the center holes. When the slides are thus set to the correct figures, to which the screw-pins are secured, the recesses of all the tumblers will be in line with the bolt, so as to admit the detaching or sliding back of the same. The number of combinations increases with the number of tumblers and perforations of each tumbler, the latter, however, being limited by the length of the slots of the casing in which the slide-pieces or screw-rods are allowed to move.

For satchels, trunks, and similar articles,

two or three tumblers would be sufficient, while for safes and other locks a larger number would be required.

The setting of the face-slides to the required position toward the ends of the guides admits the instant opening of the lock, and furnishes thereby a lock of cheap construction, which is not capable of being opened as the common locks, and which offers thereby a better guaranty and security against meddling and tampering as the common key-locks at present in use. The lock may also, in place of the sliding tumblers, be constructed with round tumblers turning on a center pivot, and having concentric slots and perforations for set-screw rods. This construction may be preferable in some cases, as less space is taken up thereby, the construction and operation being in other respects analogous to the lock with sliding tumblers.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A combination-lock consisting of a number of recessed tumbler-plates with longitudinal slots and a series of perforations, and of graduated face slide-pieces set to face guide-pieces by screw set-pins passing through the slots and one of the perforations of each tumbler, to be operated and adjusted substantially as and for the purpose set forth.

2. In a combination-lock, the sliding or turning tumbler-plates, having as many slots, less one, as the number of tumblers in the lock, and a series of perforations arranged in each tumbler symmetrically to a central perforation, substantially as and for the purpose described.

3. In a combination-lock, a sliding or turning tumbler having as many parallel slots, less one, as the number of tumblers in the lock, and a series of perforations for the passage of the screw set-pins, said perforations registering with the slots of the adjoining tumbler, and having a different relative position to the slots in each tumbler, substantially as and for the purpose set forth.

ACHILLE PARISE.

Witnesses:
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